



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/791,906

03/04/2004

Kazutaka Tasaka

65326-032

4470

7590 05/08/2007
McDermott, Will & Emery
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

PHAM, HAI CHI

ART UNIT

PAPER NUMBER

2861

MAIL DATE

DELIVERY MODE

05/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/791,906	Applicant(s) TASAKA, KAZUTAKA	
	Examiner Hai C. Pham	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE & Amendment filed 02/26/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28 is/are allowed.
- 6) ☒ Claim(s) 1-27 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Request For Continued Examination

1. The request filed on 02/26/07 for a Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 10/791,906 is acceptable and a RCE has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.
3. Claims 1-27 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 11, 18 and 30:

- The following limitation “said modified image indicating said original image is distorted in said subscan direction without being distorted in said main scan direction” as recited in each of the claims 1, 11, 18 and 30, appears to be misleading in which it indicates that the original image is not distorted/modified in the main scan direction. As it is understood from the specification, the above-mentioned limitation would be interpreted that the generation of data for the modification of the width of the image would affect the image only in one scan direction, namely the sub-scan direction.

Claims 2-10, 12-17 and 19-27 are dependent from claims 1, 11 and 18 above, and are therefore indefinite.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2, 11-14 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuka et al. (US 4,687,944) in view of Wada (US 5,528,378).

With regard to claims 1 and 18, Mitsuka et al. discloses a method and apparatus for controlling magnification variation during the recording of an image by irradiating a printing plate with a light beam (the recording method/apparatus being applied to different technical fields including recording on a photosensitive material or printing plate) (col. 1, lines 32-40), the apparatus comprising a holding drum (drum 25) for holding a printing plate (photosensitive material 26 or a printing plate when applied to the printing plate making field), a light emission part for irradiating said printing plate with a light beam to perform writing (the recording head 24 including a light source, not shown, whose exposing light beam is controlled by the exposing light control means 23), a rotation mechanism (motor 31) for scanning an irradiation position of said light beam on said printing plate in a main scan direction by rotating said holding drum relatively to said light emission part (the drum 25 being rotated by the motor 31 such

that the light beam exposes the photosensitive material 26 in the circumferential main scanning direction), a moving mechanism (motor 28) for scanning said irradiation position in a sub-scan direction by moving said light emission part relatively to said holding drum along a direction parallel to a rotation axis of said holding drum (the recording head 24 is driven by the sub-scanning feeding screw 27 and motor 28), a storage part (memory means 21) for storing data of an original image (the memory means 21 stores the image of the original document as captured by the CCD 1), an operation part (magnification converter 20) for generating data of a modified image obtained by substantially modifying width of said original image in said sub-scan direction (the scanning pitch of the reproduced image in the sub-scanning direction corresponds to the size of the picture element of the reproduced image according the magnification), and a control part (exposing light control means 23) for controlling emission of said light beam according to said data of said modified image (col. 5, line 60 to col. 6, line 25).

With regard to claim 11, Mitsuka et al. further teaches a printing mechanism (recording head 24) for performing printing with said printing plate on which an image is recorded by said light emission part.

Mitsuka et al. teaches modifying the width of the original image in the sub-scan direction by increasing or trimming pixel elements (i.e., pixels) according to the magnification (col. 7, lines 1-8), but fails to teach such modification of the original image would be only applied to the width of the image along the sub-scan direction while controlling the emission of the light beam according to the data of the modified

image in the main scan direction by shifting writing timing in the main scan direction through changing a cycle of a writing clock.

Wada first discloses a conventional method for modifying/enlarging an original image in both main and sub-scan directions in which a line of picture elements is inserted at the rate of one line to two lines for enlarging the image in the sub-scan direction while the modification of the image in the main scan direction requires the change of the frequency of the writing clock (col. 1, lines 20-55). Wada goes on and teaches an improvement over the conventional art for modifying the image in the sub-scan direction by deriving the line of picture elements to be inserted between two consecutive lines as an average of the two lines of picture elements, while keeping the same control of the frequency of the writing clock in modifying the image in the main scan direction.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the device of Mitsuka et al. with the control of the emission of the laser light source by varying the frequency of the pixel clock signal based on the change of the magnification in the main scanning direction as taught by Wada for the purpose of aligning the successive scan lines.

Mitsuka et al. further teaches:

- (referring to claims 2, 14, 19) said operation part modifies said width of said original image in said subscan direction by deleting or adding pixels (increasing or trimming pixel elements, i.e., pixels, according to the magnification) (col. 7, lines 1-8),

- (referring to claim 13) the printing mechanism performing multicolor printing (col. 4, lines 6-13).

6. Claims 3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuka et al. in view of Wada, as applied to claims 2 and 19 above, and further in view of Kato et al. (US 4,686,580) and Nakahara (U.S. 5,001,575).

Mitsuka et al., as modified by Wada, discloses all the basic limitations of the claimed invention except for dividing a pixel group constituted of pixels aligned in said sub-scan direction into a plurality of modification unit pixel groups as many as pixels to be deleted or added and determining a position of one pixel to be deleted or added from/to each of said plurality of modification unit pixel groups and using a random number for determining the position of the pixel to be added or deleted.

Kato et al. discloses an image modification method of modifying width of an image in a predetermined direction (e.g., sub-scanning direction), comprising the step of deleting or adding lines of pixels in the sub-scan direction in accordance with the magnification (col. 5, lines 15-46 and col. 7, line 66 to col. 8, line 2), and dividing a pixel group constituted of pixels aligned in said sub-scan direction into a plurality of modification unit pixel groups as many as pixels to be deleted or added and determining a position of one pixel to be deleted or added from/to each of said plurality of modification unit pixel groups (col. 10, lines 17-55).

On the other hand, Nakahara discloses an apparatus and method for reproducing an original image with a different size by adding or skipping a pixel dot to

or from each predetermined region in accordance with the selected magnification and by using a random number such that interfering streaks are laminated (col. 3, lines 39-52).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Mitsuka et al. by dividing a pixel group constituted of pixels aligned in said sub-scan direction into a plurality of modification unit pixel groups as taught by Kato and by determining the position of the pixel to be added or deleted based on a random number as taught by Nakahara for the purpose of reproducing the magnified image while eliminating the interfering streaks.

7. Claims 5 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuka et al. in view of Wada, as applied to claims 2 and 19 above, and further in view of Hosokawa et al. (U.S. 6,290,327).

Mitsuka et al., as modified by Wada, discloses all the basic limitations of the claimed invention except for the storage part storing positions of pixels to be deleted or added in said original image and processing instruction data substantially indicating distortion of said original image in said modified image, and said operation part generating data of said modified image on the basis of said processing instruction data.

Hosokawa et al. discloses an image forming apparatus and method for varying an elongation rate of an original image to form a deformed image at least in the length direction of the image, wherein a number of dot lines are added based on the

elongation rate as well as the position of each dot line to be duplicated, which are stored in advance in the elongation pattern storage means or ROM (220) (col. 15, line 28 to col. 16, line 54).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Mitsuka et al. by incorporating the storage means for storing the positions of the pixels to be deleted or added and by indicating how many times each pixel has to be duplicated as taught by Hosokawa et al. The motivation for doing so would have been to enlarge the size of the original image based on varying rate of magnification.

8. Claims 6-7, 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuka et al. in view of Wada and Hosokawa et al., as applied to claims 5 and 22 above, and further in view of Hideshima (Pub. No. U.S. 2003/0136286).

Mitsuka et al., as modified by Wada and Hosokawa et al., discloses all the basic limitations of the claimed invention except for the insertion of a blank to one end of the sub-scan direction of the image space, the plural light emitting beams aligned in the sub-scanning direction wherein the insertion of the blank data is performed while continuously moving irradiation positions of the plural light emitting beams in the sub-scanning direction, and recording of an image onto said printing plate is started on the basis of some data before said operation part generates the whole data of said modified image.

Hideshima discloses an image recording method and apparatus, which comprises a laser light source (128) whose light beam is divided into a plurality of light beams aligned in the sub-scanning direction for exposing the printing plate (102) (paragraph [0078]), the light beams continuous exposing the printing plate wherein some data (e.g., a number of blank raster lines) is carried out at the start of the scanning such that a full-color image is obtained with different color images overlapping with each other (paragraph [0130]).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Mitsuka et al. to include a plurality of light emitting beams for forming a full color image and to allow an appropriate blank data to be carried out at the start of the scanning as taught by Hideshima for the purpose of aligning the different color images.

9. Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuka et al. in view of Wada, as applied to claims 1 and 11 above, and further in view of Yoshida (U.S. 6,018,618).

Mitsuka et al., as modified by Wada, discloses all the basic limitations of the claimed invention except for the recording of an image onto said printing plate is started on the basis of some data before said operation part generates the whole data of said modified image.

Yoshida discloses an image recording apparatus and method for transferring a received image onto a recording paper by allowing some data (e.g., a certain blank

space or leading end margin that corresponds to the size of the recording medium) to be carried out being starting to record the image (Fig. 4).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Mitsuka et al. to allow some data such as the blank space at the top end of the printing medium to be performed before the recording of the image as taught by Yoshida for the purpose of properly centering the image area onto the recording medium.

10. Claims 9-10, 16-17 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuka et al. in view of Wada, as applied to claims 1, 11, 18 above, and further in view of Schaefer (U.S. 4,174,527).

Mitsuka et al., as modified by Wada, discloses all the basic limitations of the claimed invention except for the shifting of writing timing in said main scan direction by said control part being based on the printing result of a test pattern, and an image pickup part for performing an image pickup of the test pattern to acquire said printing result.

Schaefer discloses a method for locally precisely setting the start and end of image recording in the main scanning direction by forming a test pattern or mark (160) on the scanning cylinder (1) and by using an image pickup or scanning device (15) to scan the mark to output a pulse signal, which along with the generation of the signal from the impulse generator (49) while scanning another mark (53) at the other end of

the scanning cylinder, determines the start of scanning of the medium (12) (col. 3, lines 19-65).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to set the start of scanning in the device of Mitsuka et al. based on the printing and subsequently reading of a test pattern as taught by Schaefer to locally and precisely adjust the start of scanning of the medium in the main scanning direction.

11. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (US 4,686,580) in view of Yoshida.

Kato et al. discloses an image modification method of modifying width of an image in a predetermined direction (e.g., sub-scanning direction), comprising the step of deleting or adding pixels in the sub-scanning direction while aligning pixels of the image before modification from one end to the other end (a line of pixels is added/deleted in accordance with the magnification in the sub-scanning direction while one pixel is added/deleted for every n pixels in the main scanning direction [col. 5, lines 15-46 and col. 7, line 66 to col. 8, line 2] such that the pixels are kept aligned in the sub-scanning direction), wherein said modified image indicates said image distorted in said predetermined direction without being distorted in a direction orthogonal to said predetermined direction (the modification of the image is performed by determining the number and the positions of the lines or pixels to be inserted/deleted, the number and positions of the lines being determined in the sub-

scan direction are different from that being determined in the main scan direction, and thus the modification of the image in the sub-scan direction would not *affect* the modification of the image in the main scan direction).

Kato et al. fails to teach inserting a blank to one end of said predetermined direction in an image space where a modified image is generated.

Yoshida discloses an image recording apparatus and method for transferring a received image onto a recording paper by allowing some data (e.g., a certain blank space or leading end margin that corresponds to the size of the recording medium) to be carried out being starting to record the image (Fig. 4).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Kato et al. to allow some data such as the blank space at the top end of the printing medium to be performed before the recording of the image as taught by Yoshida for the purpose of properly centering the image area onto the recording medium.

Allowable Subject Matter

12. Claim 28 is allowed.
13. Claims 4 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Claims 4 and 21 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

15. Applicant's arguments with respect to claims 1-3, 5-27 and 30 have been considered but are moot in view of the new grounds of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on (571) 272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business

Application/Control Number: 10/791,906

Page 14

Art Unit: 2861

Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000

A handwritten signature in black ink, appearing to read "HAI PHAM".

HAI PHAM
PRIMARY EXAMINER

May 4, 2007